LESSON PLAN

SUB:- ELECTRICAL ESTIMATION AND CONTRACTING

BRANCH:- ELECTRICAL ENGG.

SEMESTER:4TH

NAME OF FACULTY: - NRUSINGH CHARAN BEHERA

GOVERNMENT POLYTECHNIC, JAJPUR

SESSION:2025-26

HOD Electrical 29.09.2025

Academic Co-ordinator

Principal 22/12/25
Govt. Polytechnic Jajpur

Discipline: Electrical Engg.	Semester: 4th	Name of the Teaching Faculty : NRUSINGH CHARAN BEHERA
Subject: Electrical Estimation and Contracting	No. of Days/per week class allotted:3	Semester from date: 22.12.2025 To Date: 18.04.2026 No. of Weeks:15
Week	Class Day	Theory
1st	1st	Electrical Safety and Insulation Do's and don't regarding safety in domestic electrical appliances as well for substation/power station operators
	2nd	Do's and don't regarding safety in domestic electrical appliances as well for substation/power station operators
	3rd	Electrical safety in industry/power stations/ substations at the time of operation/ control/ maintenance.
2nd	1st	Fire detection alarm
	2nd	fire-fighting equipment.
	3rd	Factors affecting life of insulating materials,
3rd	1st	classifications of insulating materials as per IS:1271-1958
	2nd	Measuring insulation resistance by different methods such as
	3rd	i) Polarization,
4th	1st	ii) Dielectric absorption,
	2nd	iii) Megger
	3rd	Insulating oil - properties of insulating oil
5th	1st	causes of deterioration of oil,
	2nd	testing of transformer oil as per IS 1866-1961
	3rd	Installation and Erection Concept of foundation for installation of machinery.
6th	1st	Requirements of foundation for static and rotating electrical machinery.
	2nd	. Concept of leveling and alignin

	3rd	Procedure for leveling and alignment of direct coupled drive,
7th	1st	effects of misalignment
	2nd	Installation of transformer as per I.S.-1886-1967 and procedure of installation of transformer
	3rd	Requirements of installation of pole mounted transformer
8th	1st	Requirements of installation of rotating electrical machines as per I.S. 900 - 1965
	2nd	Devices and tools required for loading, unloading, lifting, and carrying heavy equipment and precautions to be taken while handling them
	3rd	Testing and Commissioning Concept of testing, Objectives of testing. Roles of I.S.S. in testing of electrical equipment
9th	1st	Types of tests: Routine tests, type tests, supplementary test, special tests,
	2nd	Methods of testing - Direct/Indirect/Regenerative testing.
	3rd	Tolerances for the various items for equipment–transformer, induction motor, dc motor, synchronous machines
10th	1st	Tests before Commissioning for transformer, induction motor, alternator.
	2nd	Testing of transformer as per I.S.1886- 1967 and I.S.2026-1962
	3rd	Testing of three-phase Induction motor as per I.S.325 - 1970.
11th	1st	Testing of single- phase induction motor as per I.S.990-1965
	2nd	Testing of synchronous machines as per ISS Testing of D.C. machines
	3rd	Troubleshooting Plans Internal and external causes for failure / abnormal operation of equipment
12th	1st	List of mechanical faults, electrical faults and magnetic faults in the electrical equipment, remedies, applications
	2nd	, Preventive maintenance-procedure or developing maintenance schedules for electrical machines.
	3rd	Preventive maintenance-procedure or developing maintenance schedules for electrical machines.
	1st	Preventive maintenance-procedure or developing maintenance schedules for electrical machines.

13th	2nd	Factors affecting preventive maintenance schedules, Concept of TPM, Pillars of TPM
	3rd	, Identification of different types of faults developed such as mechanical/ electrical/ magnetic faults
14th	1st	Question discussion
	2nd	Question discussion
	3rd	Question discussion
15th	1st	Question discussion
	2nd	Question discussion
	3rd	Question discussion

Narsingh Charan Behera.

Signature of the faculty